

North Lake Union Site

Site History, Cleanup Activities, and Future Use

April 23, 2004

DETAILED INFORMATION

History of the Site

The Facilities North site was previously a petroleum handling facility operated by the former Standard Oil of California, now Chevron, and was purchased by King County in 1982. The petroleum tanks and pipelines were closed in 1984, and the site is now an active Metro Transit maintenance facility.

Previous ownership and uses of site:

- Before 1908 – Puget Sound Sheet Metal Works (South Yard)
- 1912 to late 1920s – tannery
- 1925 – Standard Oil (installed 11 ASTs and piping), North Yard
- 1950 – Standard Oil occupies South Yard
- 1960 – California Spray and Chemical Company (South Yard)
- 1982 – Metro Transit purchased entire site from Chevron for the storage of diesel

Previous sandblasting and painting activities by Metro Transit resulted in shallow soil contamination at the North Yard of the site. The storage of oil and other oil handling activities by the former Standard Oil (Chevron) resulted in deeper soil and groundwater contamination, mostly at the South Yard and lower area of the North Yard.

The following agreements, plans, and reports were prepared for the site:

- A Consent Decree between Washington State Department of Ecology (Ecology), and Chevron and King County, issued November 24, 1998, outlining agreement, cleanup activities and potential land use restrictions.
- A Cleanup Action Plan, issued on November 24, 1998, was prepared by Foster Wheeler Environmental Corporation (FWEC) for King County Metro Transit and Chevron.
- An aquifer test evaluation (slug and pump tests) was performed by Foster Wheeler in June and July, 1998, and a Cleanup Level Development Report was prepared in April 21, 1998. Foster Wheeler provided supplemental information to that report in July 24, 1998.
- A supplemental environmental assessment of soil and groundwater quality was performed by Pacific Environmental Group in 1997-8.
- A Remedial Investigation/Feasibility Study for the site was conducted and a report was prepared by Applied Geotechnology, Inc. (AGI) in 1993 and ground water monitoring in 1995 and 1997.
- A seismic evaluation and soil sampling was performed by Kennedy/Jenks/Chilton in 1988.

Soil and Groundwater Cleanup

Cleanup Levels

Contamination at the site was cleaned to the following levels based on results of the risk evaluation:

- Groundwater cleaned to Method B levels (conservative method that usually results in the most stringent cleanup standard)

- Metal in soil cleaned to Method A Industrial Soil Cleanup Levels
- Soils with benzene and polynuclear aromatic hydrocarbons (PAHs) cleaned to Method C Industrial Soil Cleanup Levels

The cleanup activities on the property are expected to result in some residual levels of petroleum hydrocarbons in the soil and in shallow groundwater.

Cleanup Phases

Phase 1 – Tank Farm soils (North Yard): excavation of shallow soils exceeding cleanup levels, surface water controls, capping of upper portion of North Yard (completed by Metro).

Phase 2 – Lower Areas soil and groundwater (southern portion of North Yard, soil and groundwater between the North and South Yard, and the South Yard): hydrogen peroxide injection and monitoring of dissolved oxygen and hydrocarbons; biosparging was conducted for several months.

King County was responsible for Phase 1 cleanup activities. Chevron is predominantly responsible for Phase 2 cleanup activities; however, King County is in a 90/10 agreement with Chevron wherein King County is responsible for 10 percent of the cost of Phase 2 cleanup.

Phase 1 Remediation Activities (Completed)

In accordance with the Consent Decree, Metro completed the following Phase 1 tank farm demolition and shallow soil remediation activities at the North Yard.

- All aboveground tanks, piping, and miscellaneous structures were removed, disposed of offsite and recycled when practical.
- The upper six inches of soil containing metals was excavated and transported for offsite disposal at an approved landfill.
- Structures extending below grade such as pipe supports were demolished, cleaned, disposed of offsite and recycled when practical.
- Compliance monitoring for metals in soils at North Yard was completed and Ecology's Notice of Completion (No Further Action letter) was issued Jan 20, 2000.

Phase 2 Remediation Activities (Approximately 90% Complete)

Phase 2 cleanup of deeper soils and groundwater is being conducted by Chevron, in accordance with the Consent Decree, and includes the following:

- Injection wells were installed where deeper soils and groundwater remediation is required.
- Hydrogen peroxide injection in the wells was used to increase biological breakdown of hydrocarbons (completed in 2000); enhanced fluid recovery with vacuum extraction was used to remove contaminated groundwater (completed in 2001); and biosparging to surge and remove residual hydrocarbons from deeper soils and groundwater was conducted for several months in 2002-03; quarterly groundwater monitoring is being done to evaluate progress.
- Results of cleanup and monitoring are reported in quarterly progress reports.
- Biosparging was conducted at the south end of the remediation area to limit the potential migration of contaminants toward Lake Union; however, biosparging was shut down after data indicated that it was no longer improving environmental conditions.
- Residual petroleum contamination at the south end of the North Yard may require alternative cleanup strategies.

Expected Date of Completion

Phase 1 remediation activities are complete.

Phase 2 activities are approximately 90 percent complete. The final completion date depends on the results of compliance monitoring. The current expectation is that the Department of Ecology will issue a Notice of Completion within three to five years – sooner if a development proposal for the site requires excavation and removal of soil.

Future Use of the Site

In accordance with the Consent Decree, the following restrictive covenants were applied to the property (only includes covenants relevant to property use):

- No development of the Property for uses other than industrial uses, as defined in Chapter 70.105D RCW, shall be undertaken without Ecology approval.
- With the exceptions for landscaping and shallow underground utilities, no excavation of soils shall be permitted on the Property without Ecology approval. Any excavation for such landscaping or underground utilities must ensure there is no increased exposure of the residual contaminants remaining in the property after the Cleanup Action.
- No title, easement, lease or other interest in the property shall be conveyed or entered into without adequate provision for the terms of this Declaration of Restrictive Covenants.

If a future non-industrial use is proposed for the site, additional remediation would likely be required by Ecology if excavation or disturbance to the substrate is proposed. Any future use that requires excavation could result in the discovery of new contamination requiring cleanup; however, the subsurface of the site has been studied extensively and the discovery of significant new contamination appears unlikely.